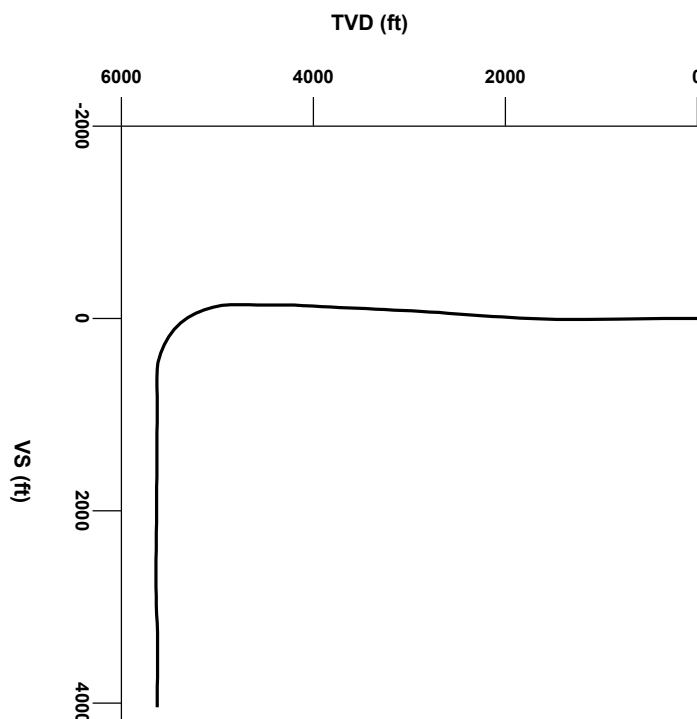


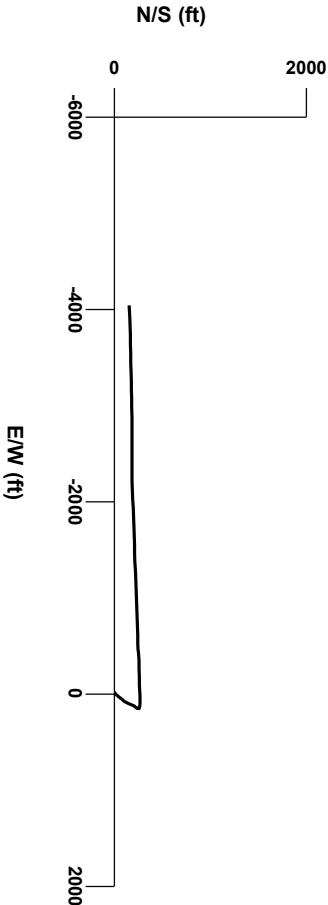
LOG created using LPLOT VH Version 3.0, August 08, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: ROHN STATE LD04-65-1HN
LOCATION: SEC 4 T9N R58W
COUNTY: WELD
STATE: COLORADO
SPOT: 2064' FSL, 480' FEL
ELEVATION: 4704' GE; 4728' KB
FIELD: WILDCAT
SPUD DATE: 08/02/2013
TD DATE: 08/08/2013
DATES LOGGED: 08/03/2013 - 08/08/2013
DEPTHS LOGGED: 4866' - 9578' MD
LOGGERS: LAURA KELLOGG; BRAD WILSON; CONOR PESICKA
DRILLING FLUID: LSND
DRILLING RIG: H&P 273
API: 05-123-37451
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES
 PROVIDED BY COLUMBINE LOGGING INC.



Survey Elevation

Survey Plan



6000

LITHOLOGIES

Chalk

Marl

Silty Shale

MODIFIERS

B

Bentonite

ENGINEERING SYMBOLS

▲

Casing

◀

Casing

◻

Connection

⊗

Connection Gas

⬛

Midnight Depth

0

GAS

UNITS

2000

0

C1

PPM

200000

0

C2

PPM

200000

0

C3

PPM

200000

0

C4

PPM

200000

0

ROP

FT/HR

500

COLUMBINE LOGGING INC.

RIGGED UP ON 08/03/2013

MANNED 2-PERSON LOGGING

WITH BLOODHOUND GAS

CHROMATOGRAPH UNIT #0540

COLUMBINE BEGAN LOGGING

ON 08/03/2013

BHA BIT:

SEC 8.75" FXD55

Serial #: 12066930

Jets: 5x14

BEGAN DRILLING CURVE

@ 11:47 AM 08/04/2013

08/05/2013

DEPTH (FEET)

4810

20

30

40

50

60

70

80

90

4900

10

20

30

40

472u

C1: 100.0%

C2: 0.0%

C3: 0.0%

C4: 0.0%

855u

⊗

424u

GAMMA RAY

40

API

300

TVD

ft

4800

7000

TFG

4877'

MD

1.8°

INC

358.1°

AZM

4860.67'

TVD

Acetone was used as the cutting agent with the dimple filled to the rim

The ratings are based on 7 descriptors: None, Slight trace, Trace, Fair, Moderate, Good, and Excellent. The descriptor used is based on the loggers observations and best judgment of brilliance, color and longevity of the cut.

OIL SHOWS

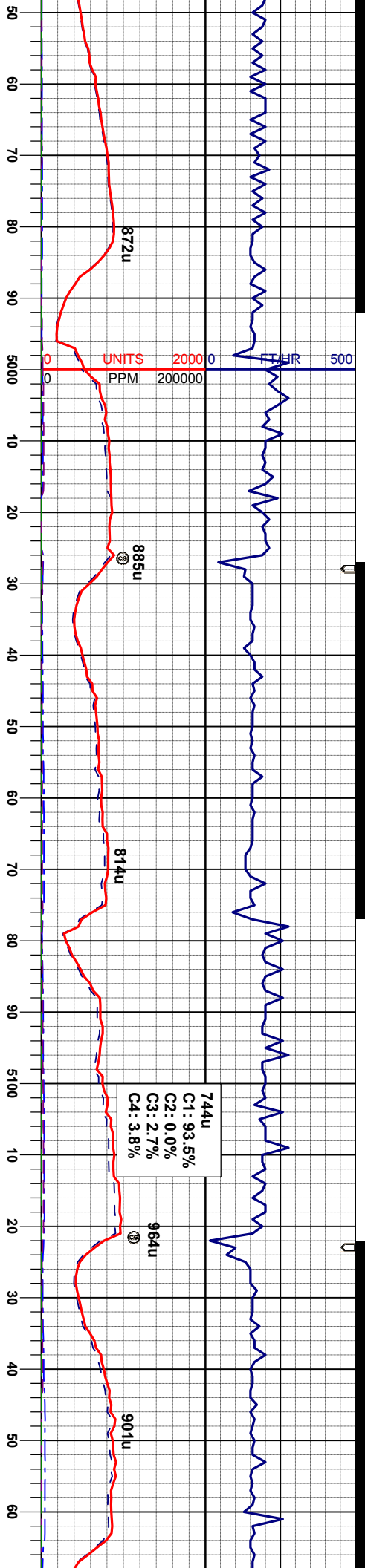
tex, arg cmt

SL.TY.Sht: lty-gy, sbply-sbbkly, v sft, gt-sily

SL.TY.Sht: lty-gy, sbply-sbbkly, v sft, gt-sily

tex, arg cmt

SAMPLE PHOTOS



MD 4972'
INC 7.6°
AZM 288.8°
TVD 4955.35'

WT IN 9.60/ OUT 9.60
VIS IN 34/ OUT 34

MD 5067'
INC 15.1°
AZM 277.1°
TVD 5048.44'

MD 5161'
INC 20°
AZM 274°
TVD 5138.9'

SLTYSH: lly-gy, sbply-sbply, v sft, gt-sily
tex, arg cnt

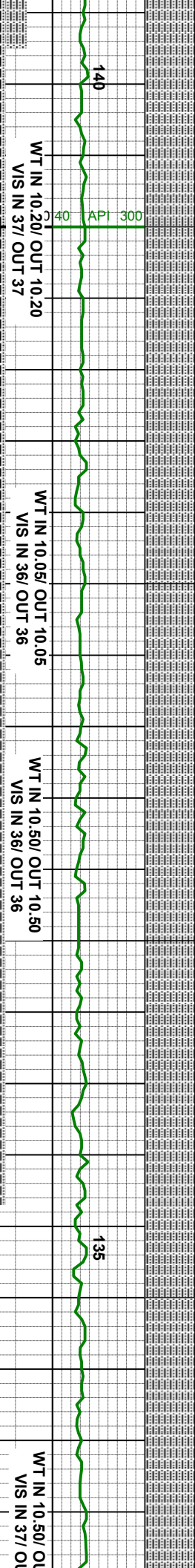
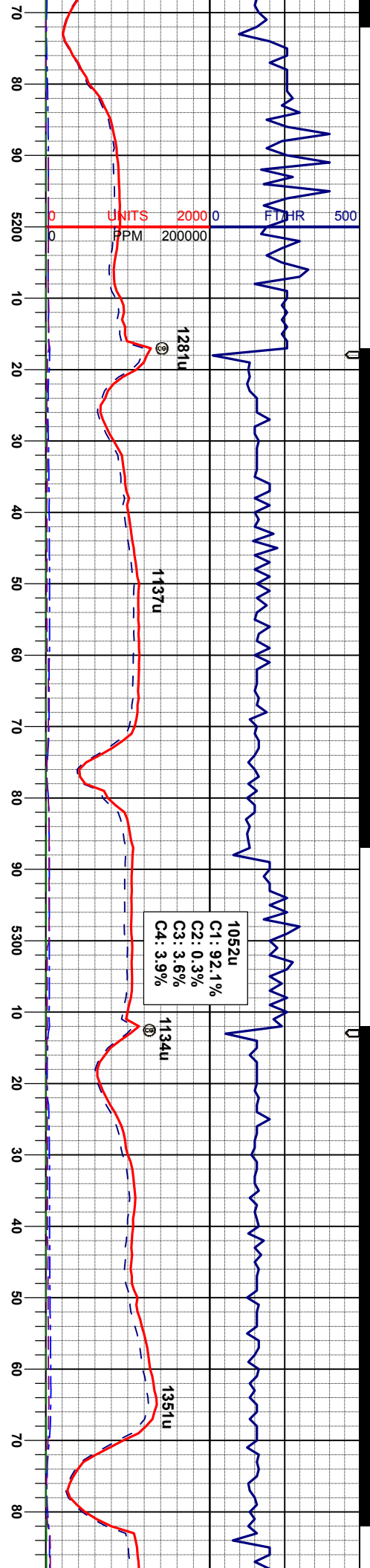
SLTYSH: lly-gy, sbply-sbply, v sft, gt-sily
tex, arg cnt

SLTYSH: lly-gy, sbply-sbply, v sft, gt-sily
tex, arg cnt

SLTYSH: lly-gy, sbply-sbply, v sft, gt-sily
tex, arg cnt

SLTYSH: lly-gy, sbply-sbply, v sft, gt-sily
tex, arg cnt





2' 11" 3' 6"

MD 5257'
INC 24.9°
AZM 269.9°
TVD 5226.71'

MD 5351'
INC 32.0°
AZM 266.7°
TVD 5309.31'

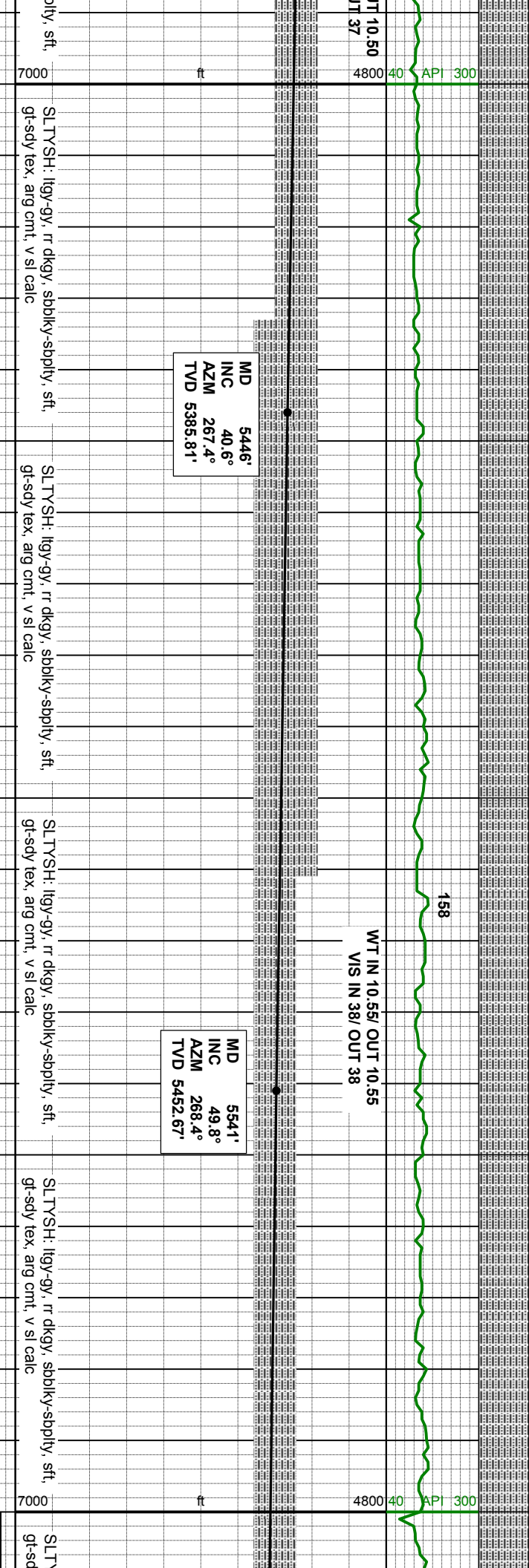
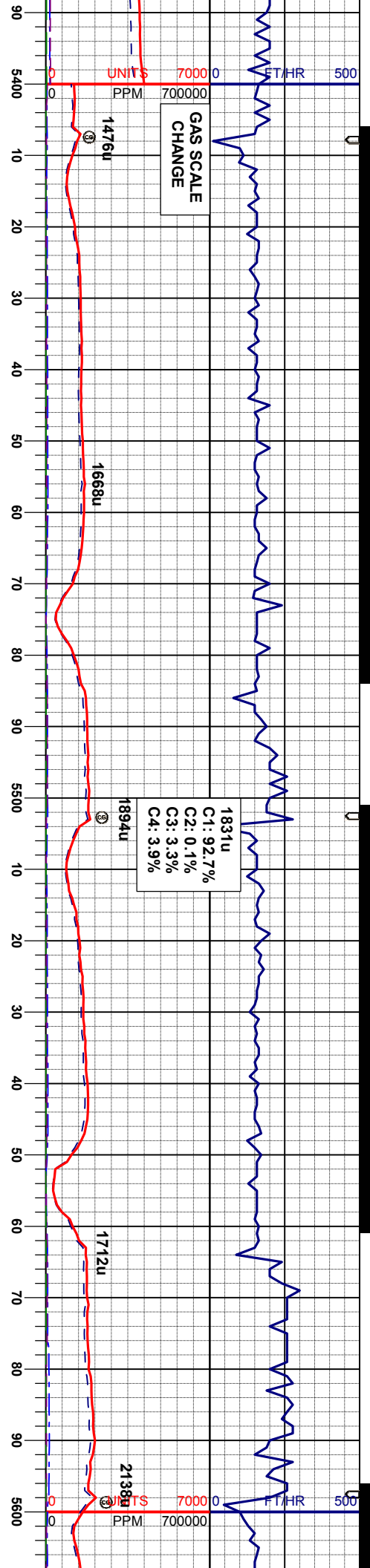
SLTYSH: lly-gy, sbply-sbply, v sft, gt-sily
tex, arg cnt

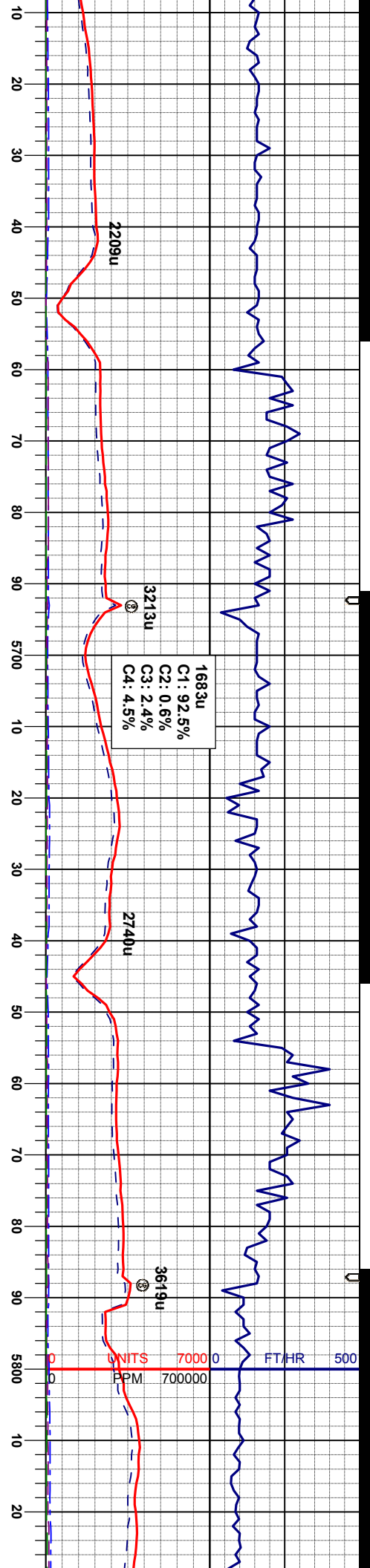
SLTYSH: lly-gy, sbply-sbply, v sft, gt-sily
tex, arg cnt

SLTYSH: lly-gy, r dkgy, sbply-sbply, sft,
gt-sdy tex, arg cnt, v sl calc

SLTYSH: lly-gy, r dkgy, sbply-sbply-sb
gt-sdy tex, arg cnt, v sl calc







MD 5636'
INC 57.5°
AZM 269.7°
TVD 5508.94'

SLTSH: lgy-gy, rr dgy, sbblky-sbply, sft,
rthy tex, v calc, occ bent
CHK: lgy, sbblky, sft, mot-wxy tex, v calc

WT IN 10.60/ OUT 10.60
VIS IN 37/ OUT 37

MD 5731'
INC 63.8°
AZM 269.1°
TVD 5555.48'

SLTSH: lgy-gy, rr dgy, sbblky-sbply, sft,
rthy tex, v calc, occ bent
CHK: lgy, sbblky, sft, mot-wxy tex, v calc

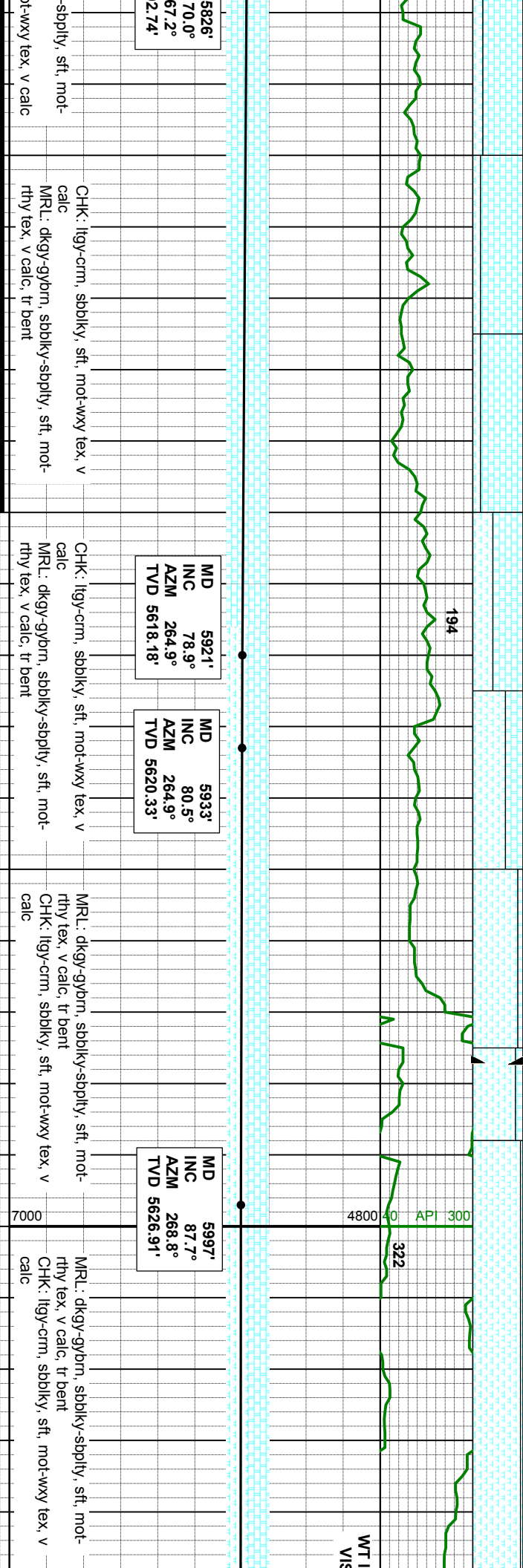
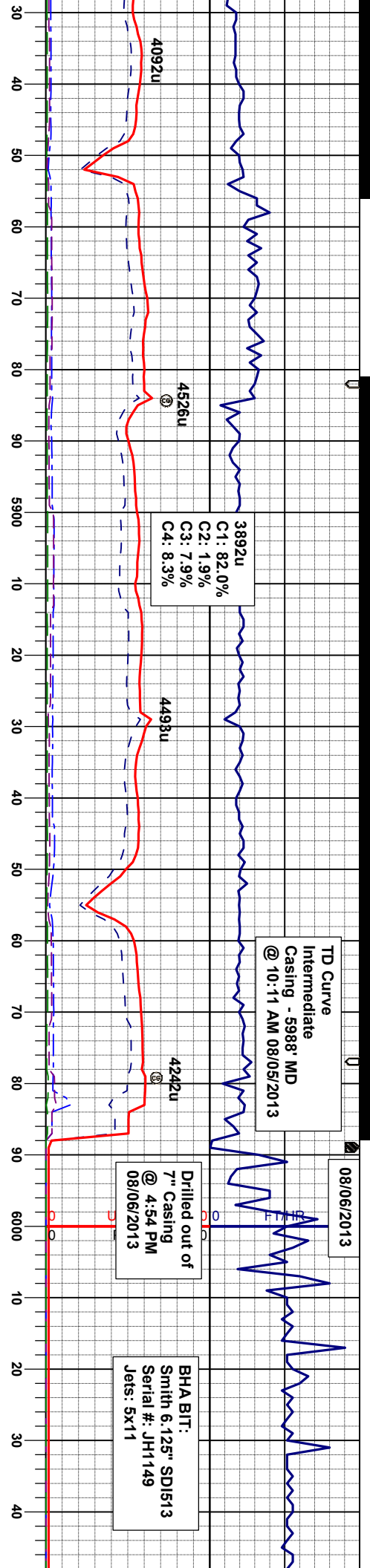
SHARON SPRINGS
MARKER BED @
5752' MD/ 5563'TVD

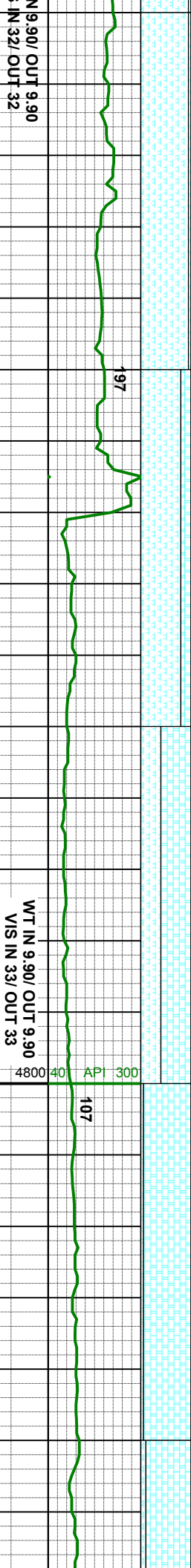
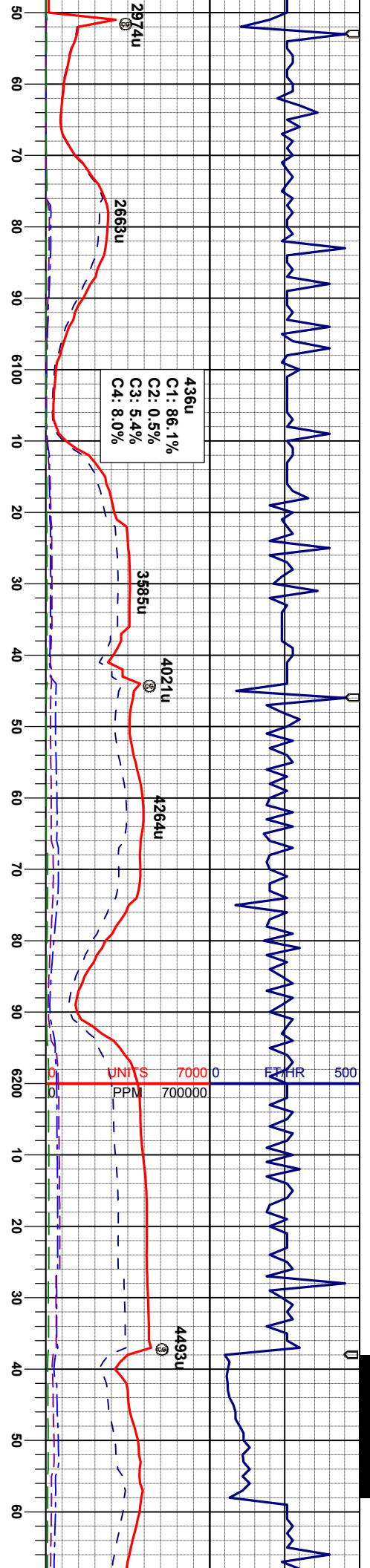
NIOBARA TOP @
5770MD/ 5570'TVD

NIO A CHALK @
5805 MD/ 5584'TVD

MD 5805'
INC 57.5°
AZM 269.7°
TVD 5508.94'

SLTSH: lgy-gy, rr dgy, sbblky-sbply, sft,
rthy tex, v calc, occ bent
CHK: lgy, sbblky, sft, mot-wxy tex, v calc





MD 6092'
INC 88.6°
AZM 268.3°
TVD 5629.98'

MRL: dkgy-gybrn, sbbiky-sbply, sft, mot-
rthy tex, v calc, tr bent
CHK: ltgy-crm, sbbiky, sft, mot-wxy tex, v
calc

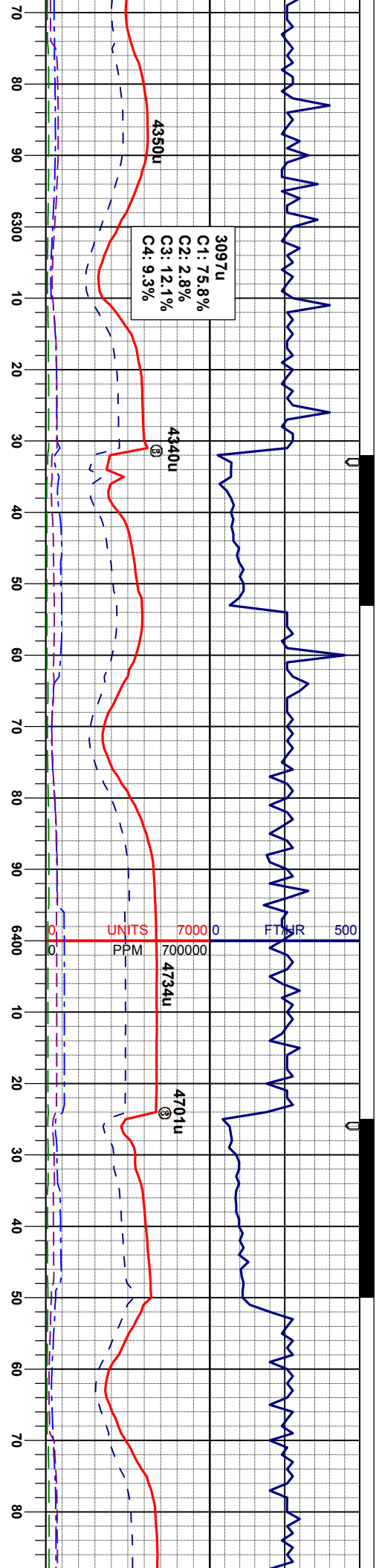
MD 6182'
INC 91.1°
AZM 267.6°
TVD 5630.21'

MRL: dkgy-gybrn, sbbiky-sbply, sft, mot-
rthy tex, v calc, tr bent
CHK: ltgy-crm, sbbiky, sft, mot-wxy tex, v
calc

CHK: ltgy-crm, sbbiky, sft, mot-wxy tex, v
calc
MRL: dkgy-gybrn, sbbiky-sbply, sft, mot-
rthy tex, v calc, tr bent

CHK: ltgy-crm, sbbiky, sft, mot-wxy tex, v
calc
MRL: dkgy-gybrn, sbbiky-sbply, sft, mot-
rthy tex, v calc, tr bent

CHK: ltgy-crm
calc
MRL: dkgy-gybrn, sbbiky-sbply, sft, mot-
rthy tex, v calc



MD 6277'
INC 91.0°
AZM 269.1°
TVD 5628.45'

sbbiky, sft, mot-wxy tex, v
cm, sbbiky-sbply, sft, mot-
rthy tex, v calc, tr bent

CHK: lty-crm, sbbiky, sft, mot-wxy tex, v
calc
MRL: dkgy-gybrn, sbbiky-sbply, sft, mot-
rthy tex, v calc, tr bent

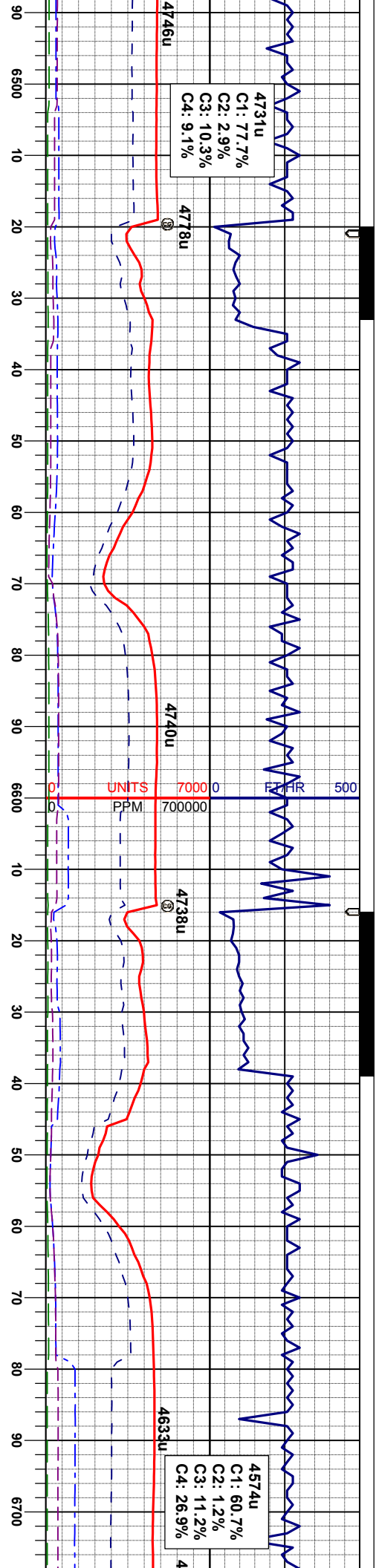
MD 6370'
INC 90.4°
AZM 268.1°
TVD 5627.33'

CHK: lty-crm, sbbiky, sft, mot-wxy tex, v
calc
MRL: dkgy-gybrn, sbbiky-sbply, sft, mot-
rthy tex, v calc, tr bent

MD 6464'
INC 89.3°
AZM 268.4°
TVD 5627.58'

CHK: lty-crm, sbbiky, sft, mot-wxy
calc
MRL: dkgy-gybrn, sbbiky-sbply, s
rthy tex, v calc, tr bent





WT IN 9.95/ OUT 9.95
VIS IN 31/ OUT 31

MD 6559'
INC 89.7°
AZM 267.2°
TVD 5628.41'

WT IN 10.00/ OUT 10.00
VIS IN 30/ OUT 30

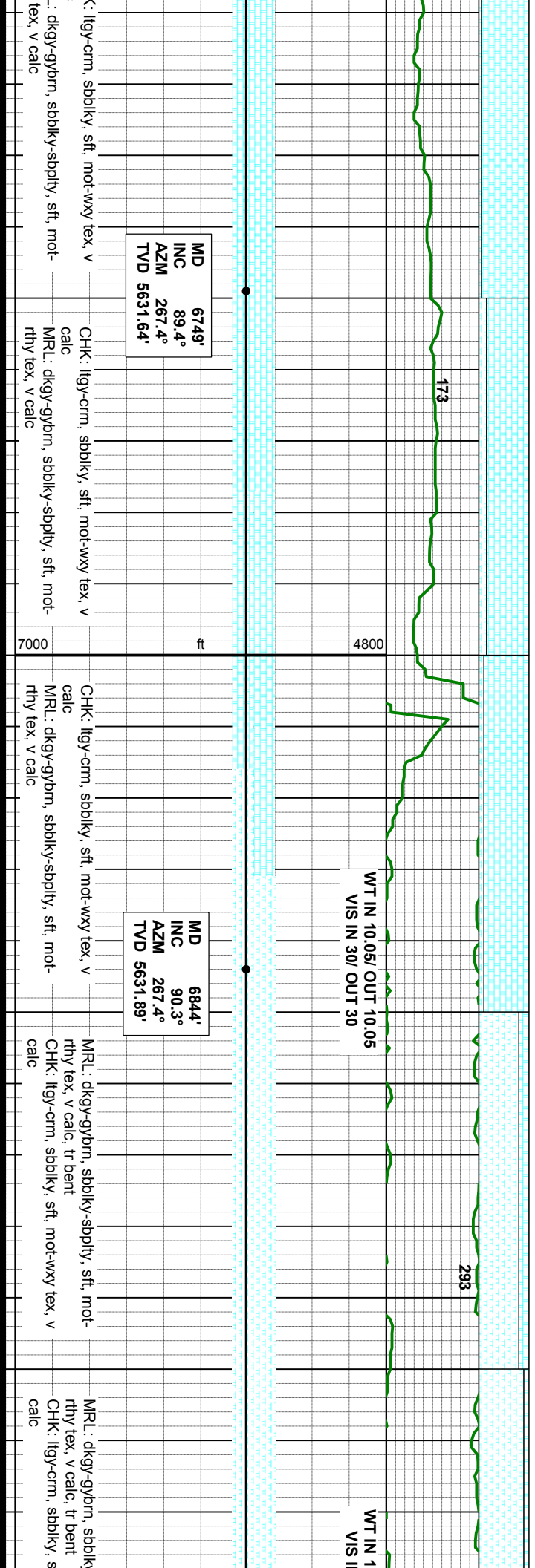
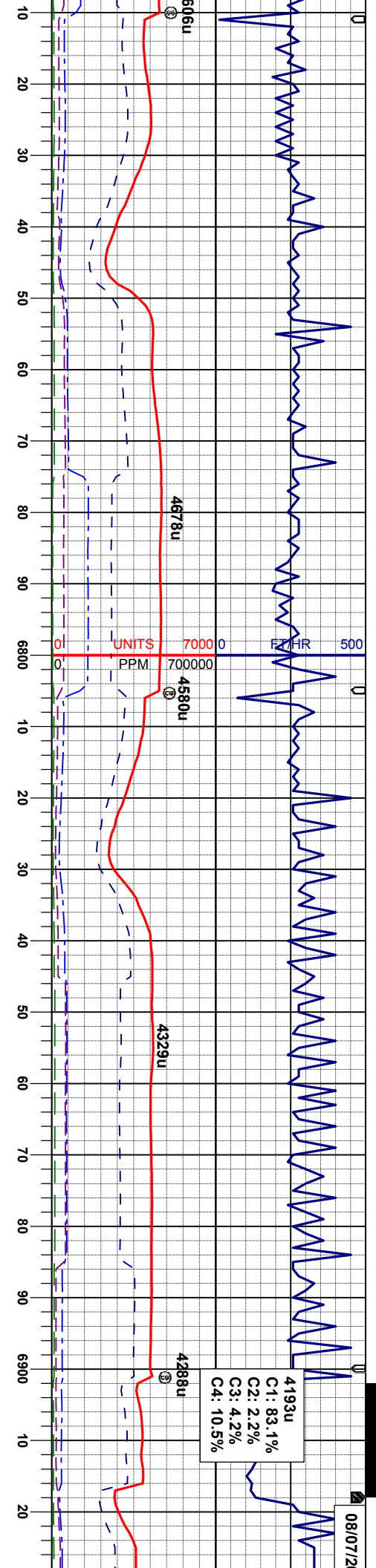
MD 6654'
INC 88.5°
AZM 267.6°
TVD 5629.90'

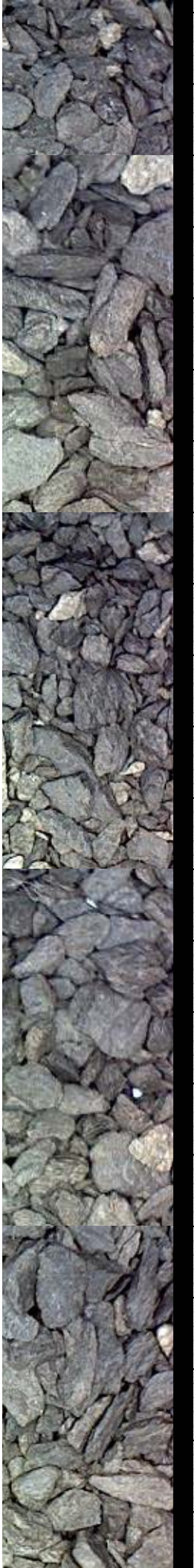
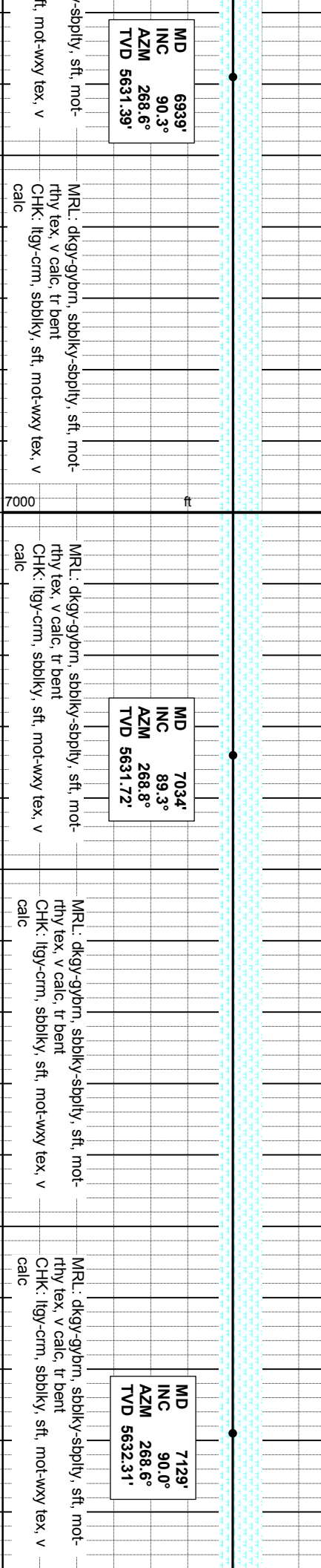
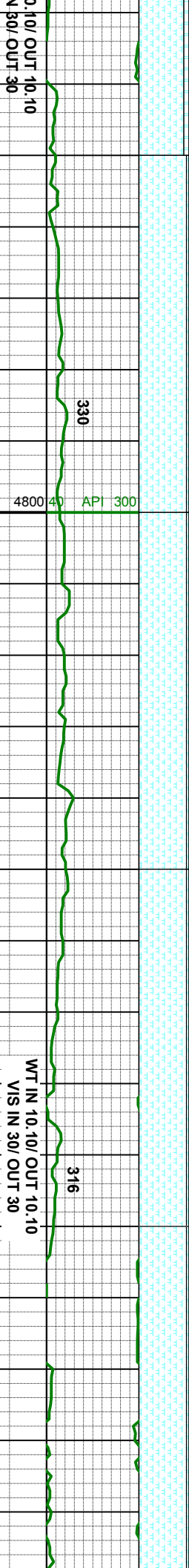
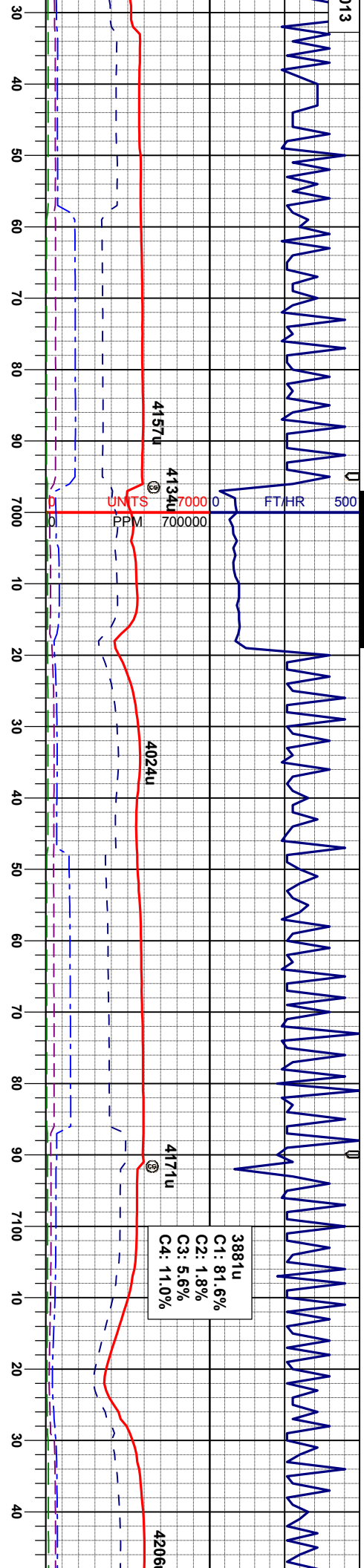
CHK: lgy-crm, sblky, sft, mot-wxy tex, v
calc
MRL: dkgy-gybrn, sblky-sbply, sft, mot-
rthy tex, v calc, tr bent

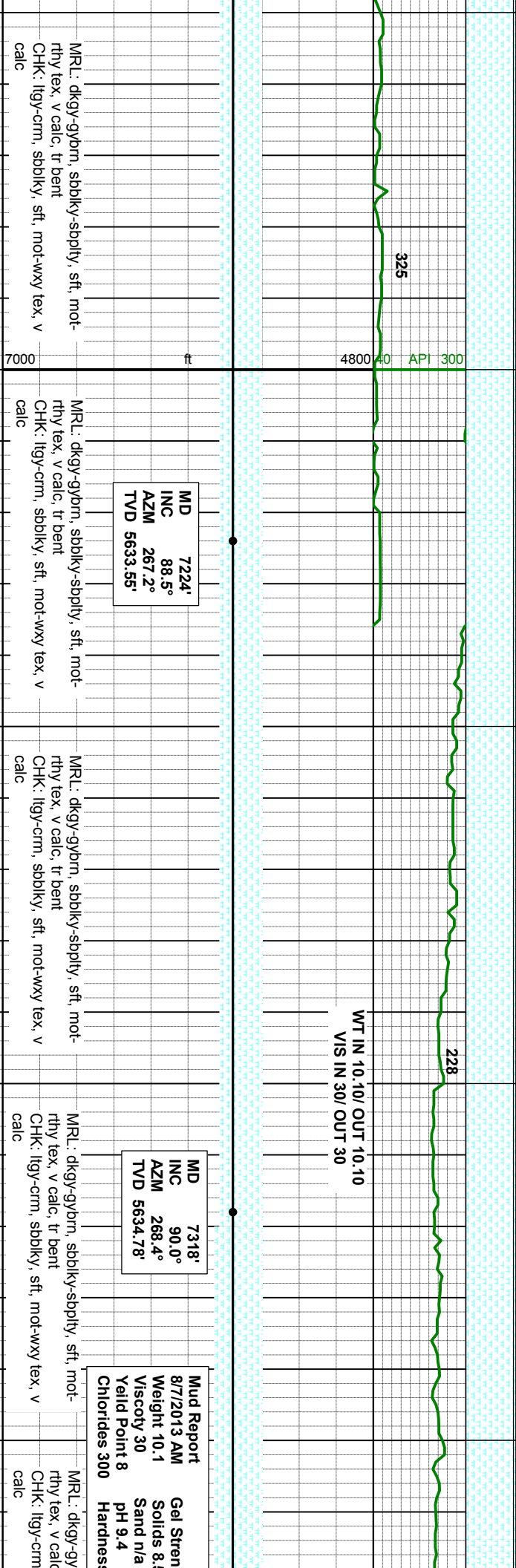
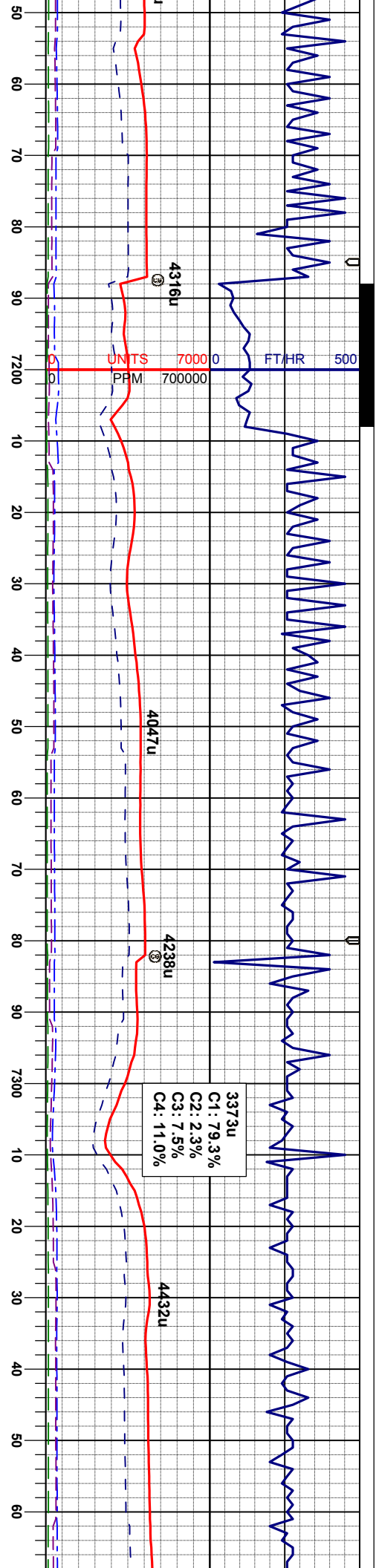
CHK: lgy-crm, sblky, sft, mot-wxy tex, v
calc
MRL: dkgy-gybrn, sblky-sbply, sft, mot-
rthy tex, v calc

CHK: lgy-crm, sblky, sft, mot-wxy tex, v
calc
MRL: dkgy-gybrn, sblky-sbply, sft, mot-
rthy tex, v calc









MD 7224'
INC 88.5°
AZM 267.2°
TVD 5633.55'

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-
rthy tex, v calc, tr bent
CHK: ltgy-crm, sbblky, sft, mot-wxy tex, v
calc

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-
rthy tex, v calc, tr bent
CHK: ltgy-crm, sbblky, sft, mot-wxy tex, v
calc

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-
rthy tex, v calc, tr bent
CHK: ltgy-crm, sbblky, sft, mot-wxy tex, v
calc

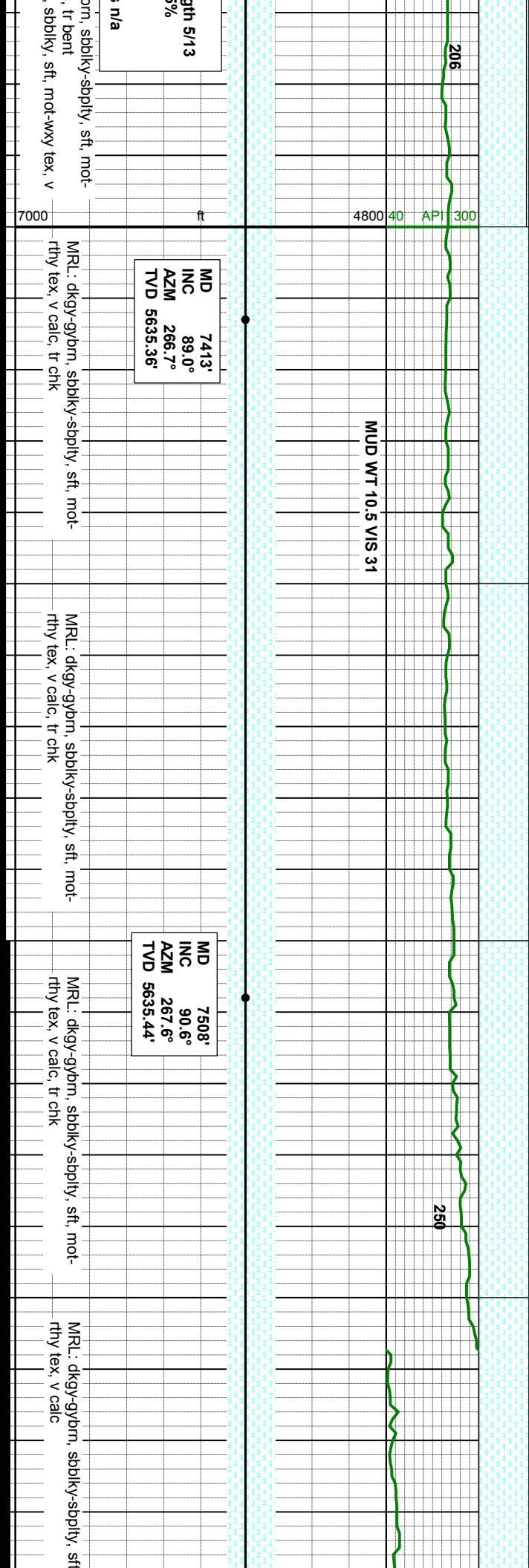
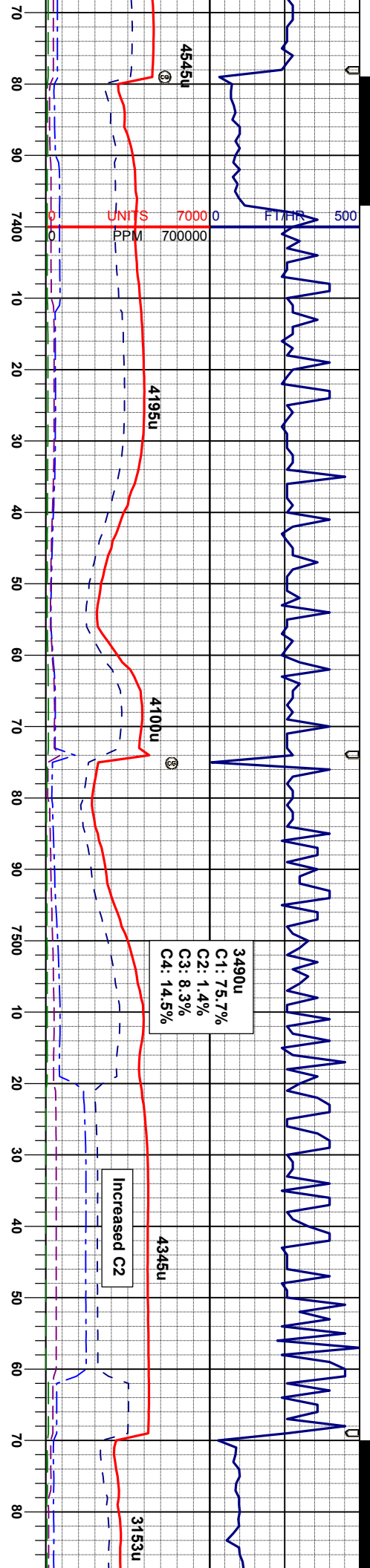
MD 7318'
INC 90.0°
AZM 268.4°
TVD 5634.78'

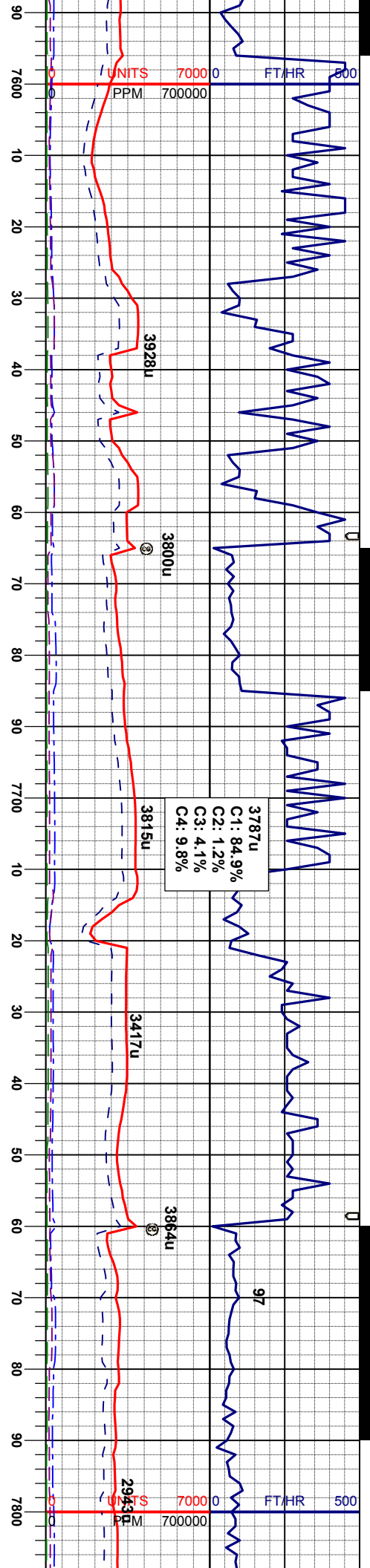
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-
rthy tex, v calc, tr bent
CHK: ltgy-crm, sbblky, sft, mot-wxy tex, v
calc

Mud Report
8/7/2013 AM
Weight 10.1
Viscosity 30
Yield Point 8
Chlorides 300
Gel Stren
Solids 8:
Sand n/a
pH 9.4
Hardness

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-
rthy tex, v calc
CHK: ltgy-crm, sbblky, sft, mot-wxy tex, v
calc







MD 7603'
INC 89.6°
AZM 267.6°
TVD 5635.28'

MRL: dkgy-gybrn, sbblky-sbply, sft, v mot-rthy tex, v calc

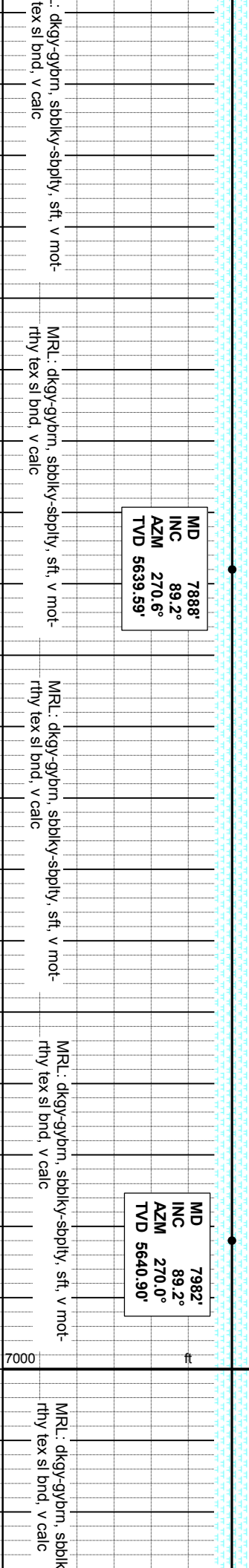
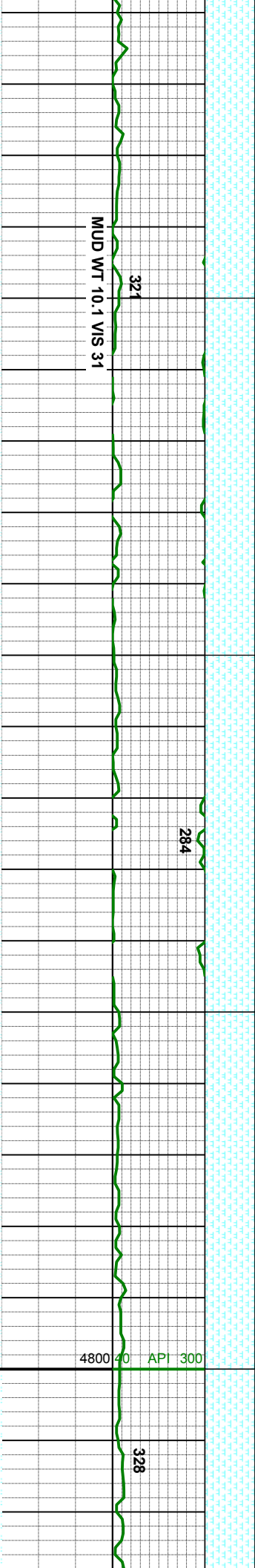
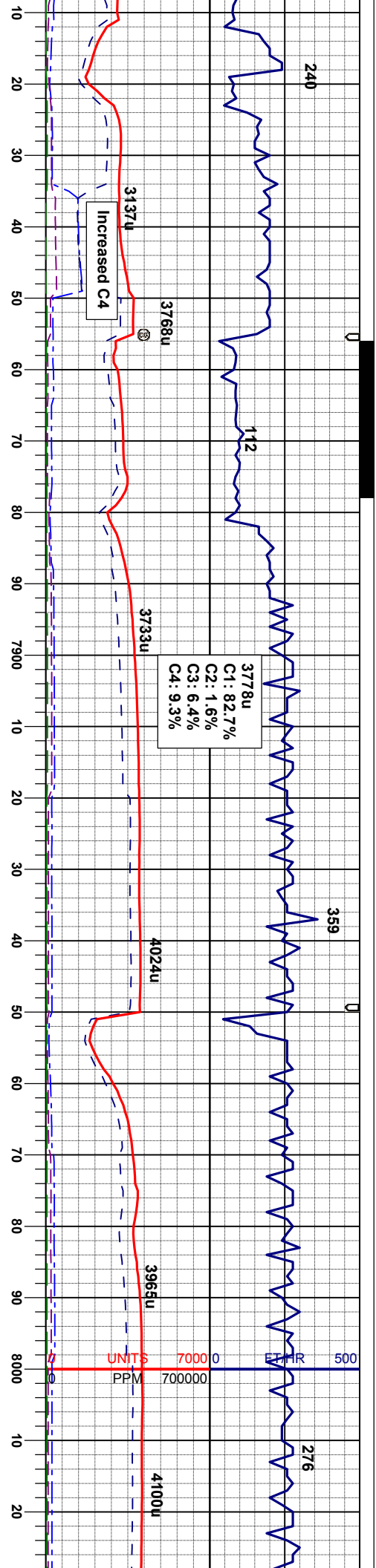
MD 7698'
INC 88.6°
AZM 267.4°
TVD 5636.77'

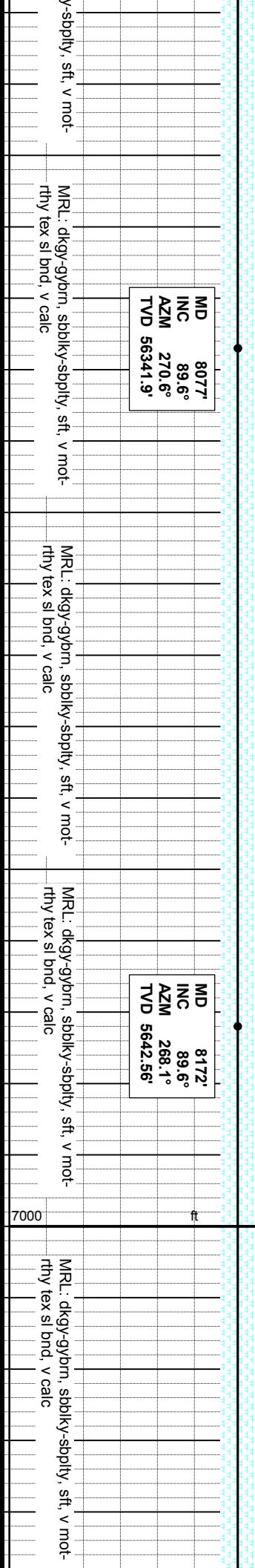
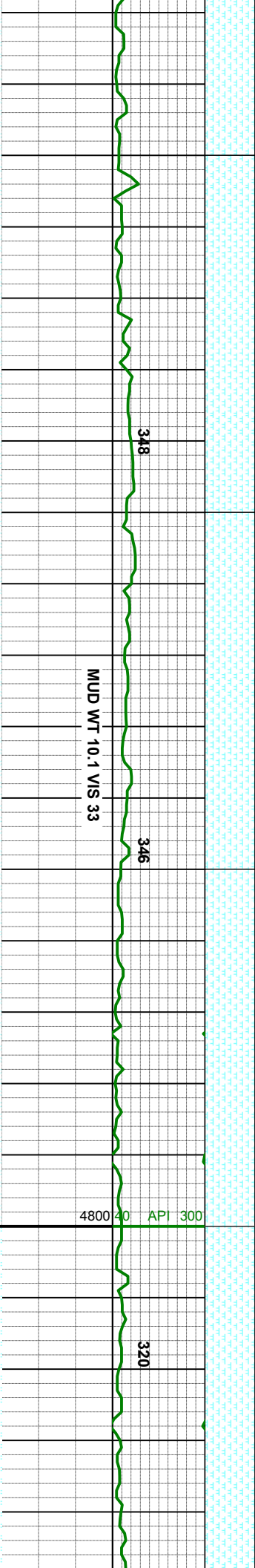
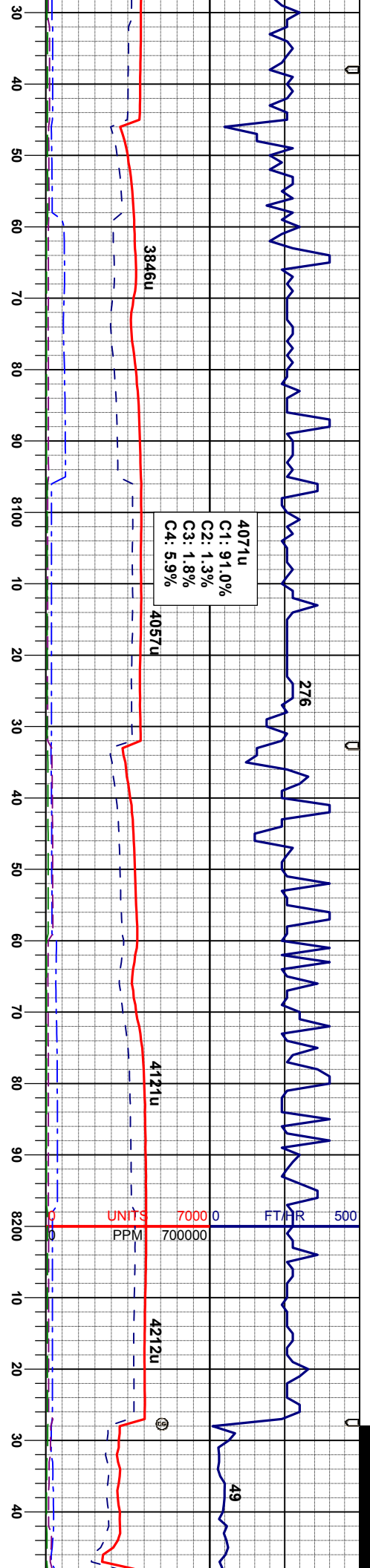
MRL: dkgy-gybrn, sbblky-sbply, sft, v mot-rthy tex sl bnd, v calc

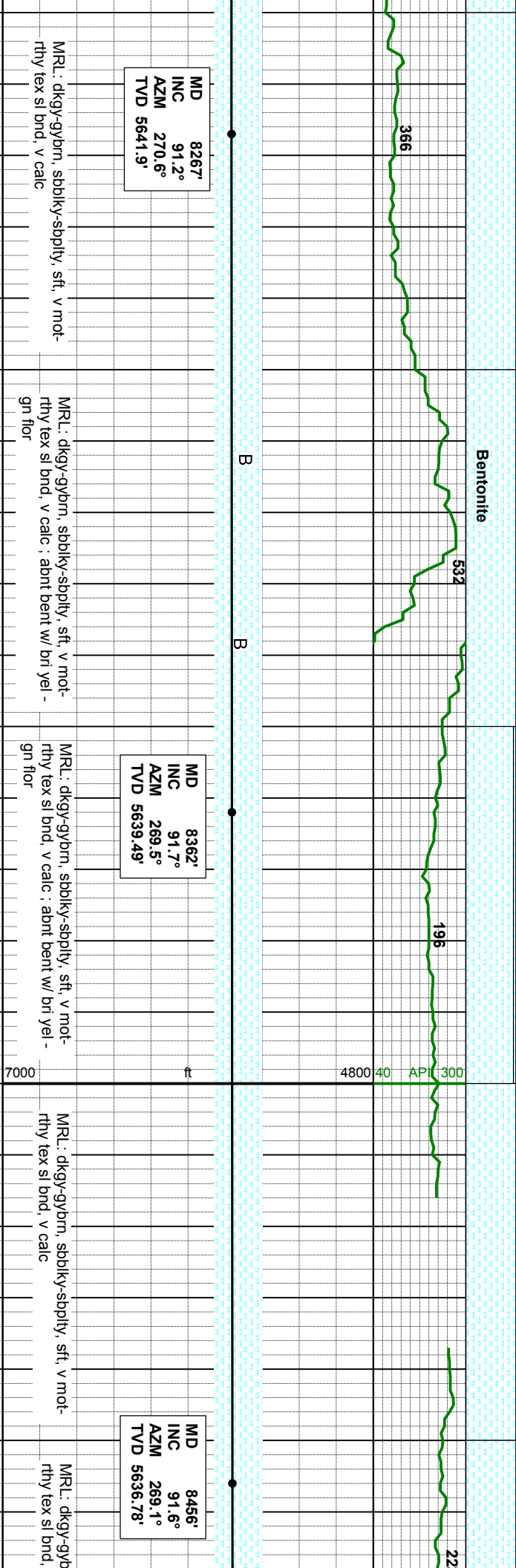
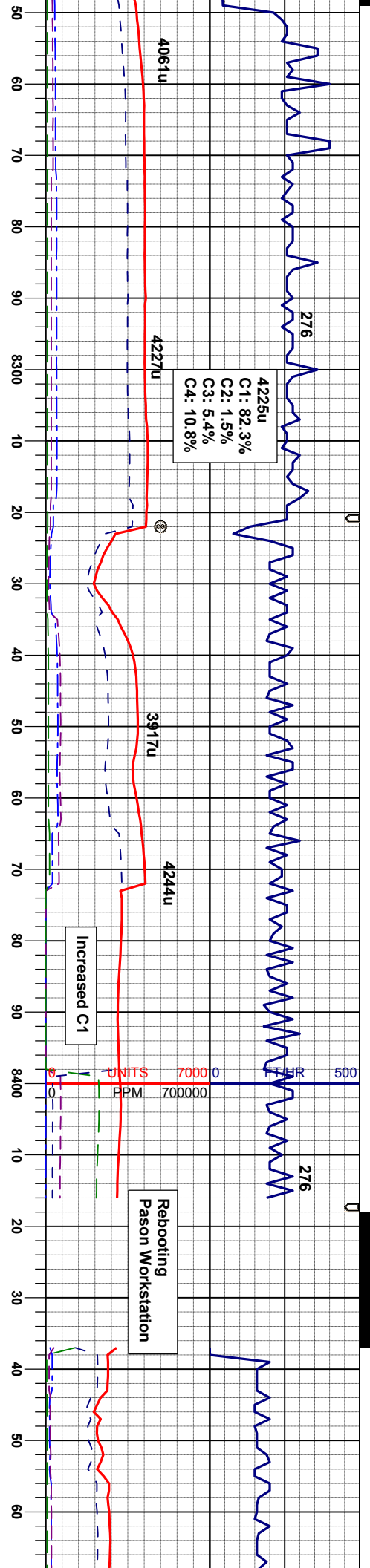
MD 7793'
INC 89.4°
AZM 270.9°
TVD 5638.43'

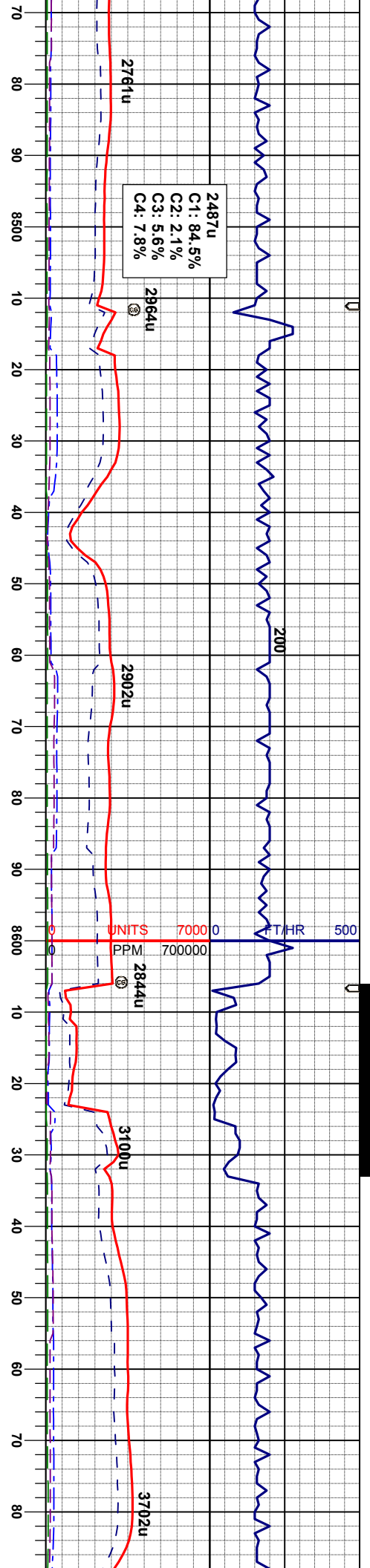
MRL: dkgy-gybrn, sbblky-sbply, sft, v mot-rthy tex sl bnd, v calc











MUD WT 10.1 VIS 39
OUT WT 10.25 VIS 35

MD 8551'
INC 92.5°
AZM 268.8°
TVD 5633.39'

MUD WT 10.5 VIS 36

MD 8646'
INC 92.1°
AZM 268.8°
TVD 5629.57'

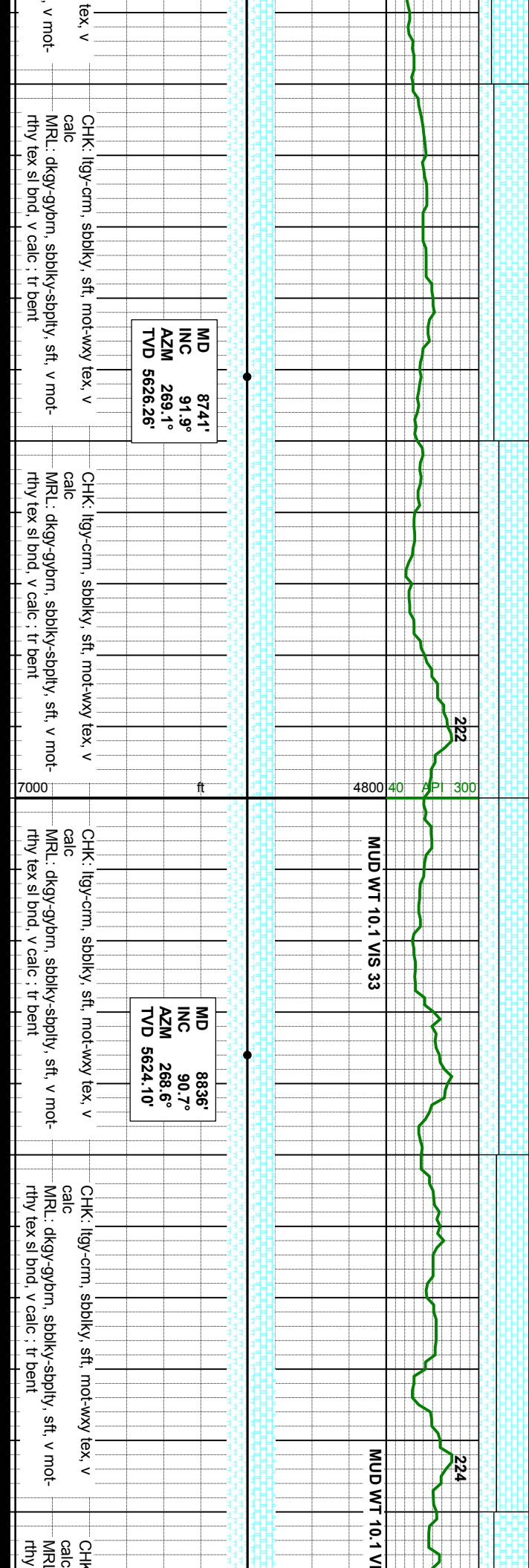
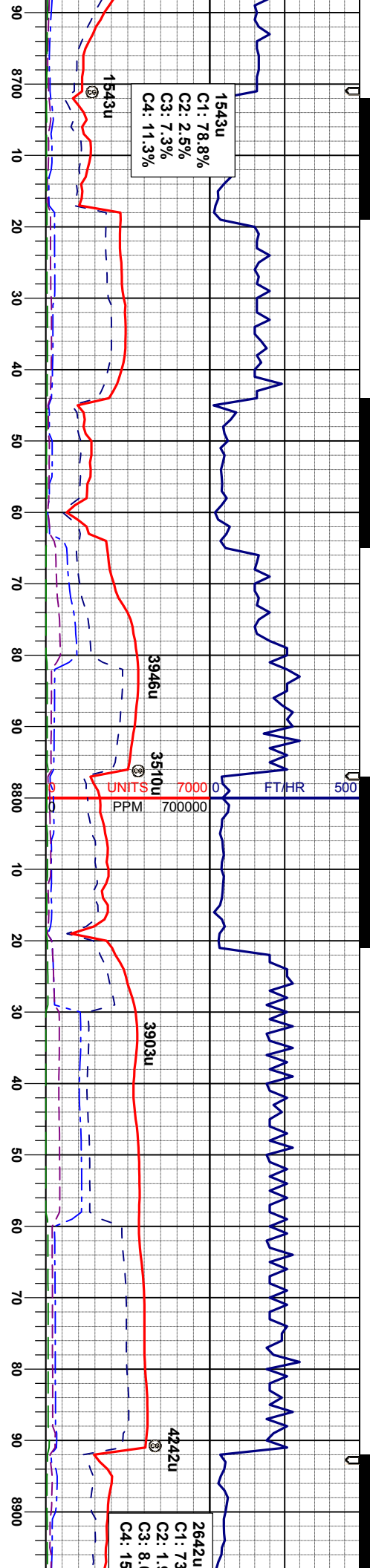
GR: dkgy-gybrn, sbblky-sbply, sft, v mot-
rthy tex sl brd, v calc ; tr bent

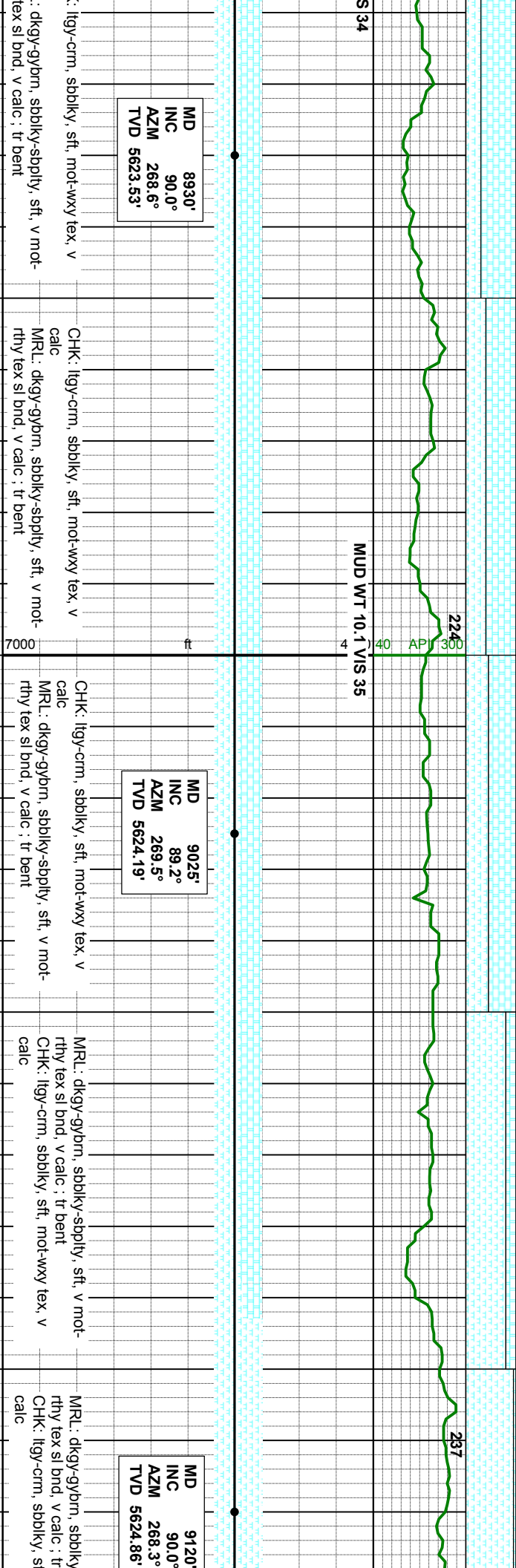
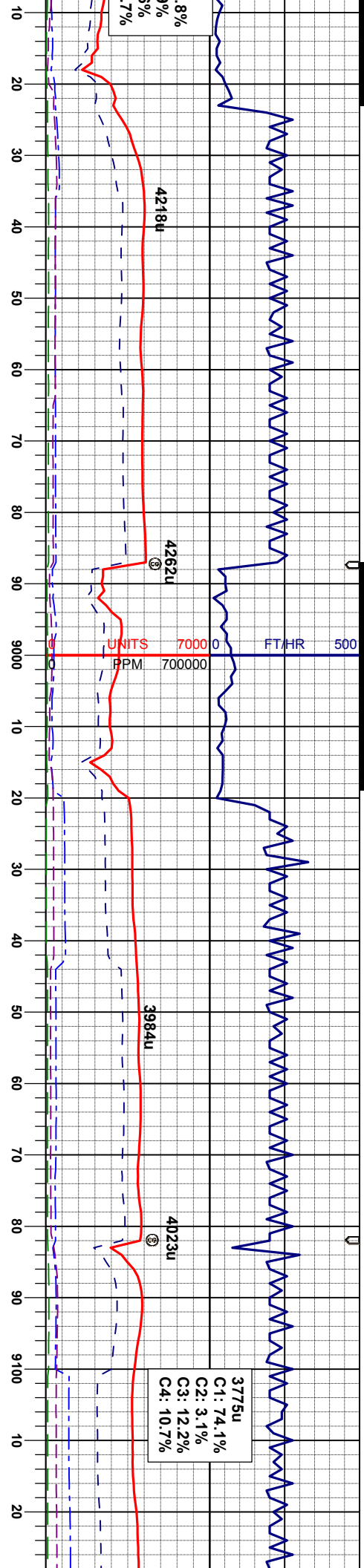
GR: dkgy-gybrn, sbblky-sbply, sft, v mot-
rthy tex sl brd, v calc ; tr bent

GR: dkgy-gybrn, sbblky-sbply, sft, v mot-
rthy tex sl brd, v calc ; tr bent

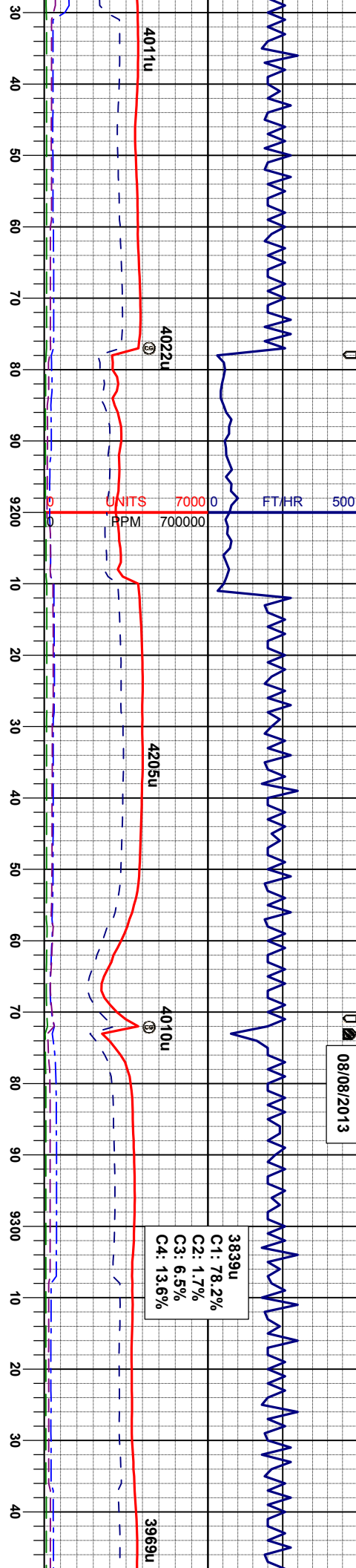
GR: dkgy-gybrn, sbblky-sbply, sft, v mot-
rthy tex sl brd, v calc ; tr bent







08/08/2013



MUD WT 10.1 VIS 34

MD 9215'
INC 88.6°
AZM 268.1°
TVD 5626.02'

MR.L: dkgy-gybm, sbblky-sbply, sft, v mot-
rthy tex sl bnd, v calc ; tr bent

MR.L: dkgy-gybm, sbblky-sbply, sft, v mot-
rthy tex sl bnd, v calc ; tr bent

MD 9310'
INC 89.0°
AZM 267.9°
TVD 5628.01'

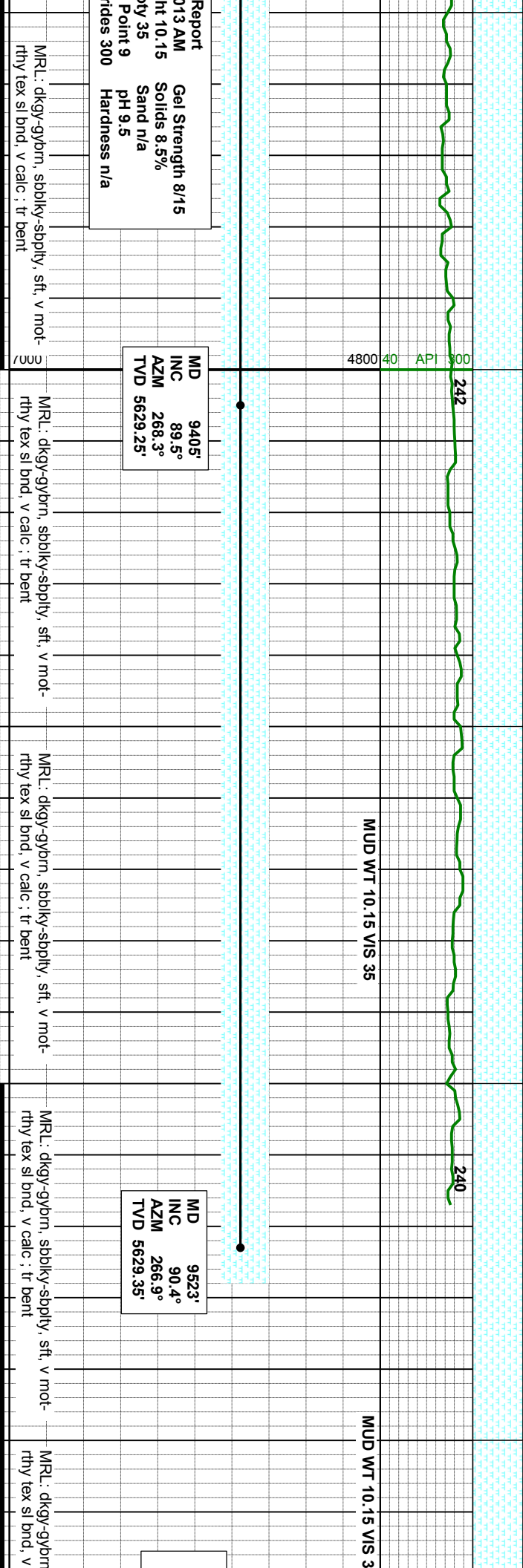
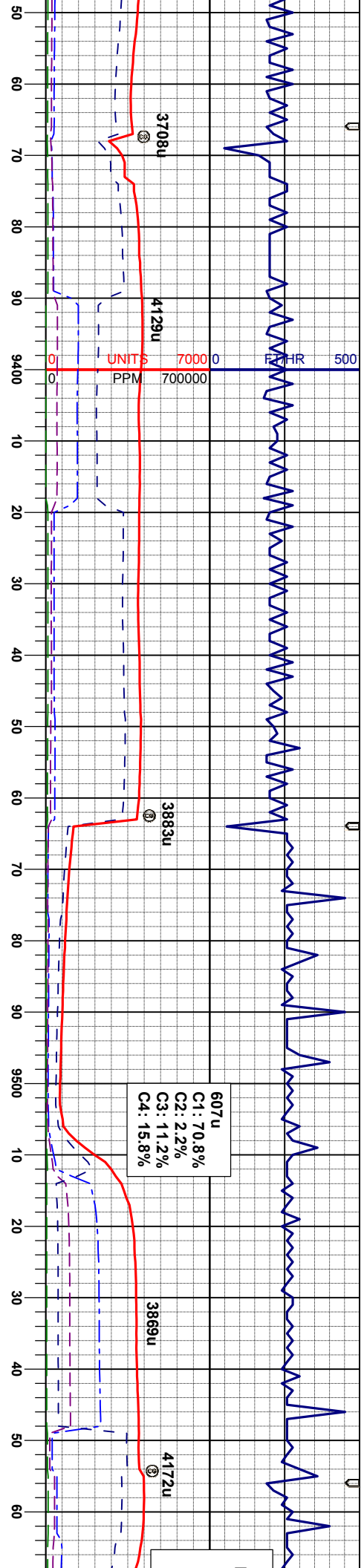
MR.L: dkgy-gybm, sbblky-sbply, sft, v mot-
rthy tex sl bnd, v calc ; tr bent

Mud 8/8/2
Weig
Viscc
Yield
Chio

MR.L: dkgy-gybm, sbblky-sbply, sft, v mot-
rthy tex sl bnd, v calc ; tr bent
CHK: ilgy-crm, sbblky, sft, mot-wxy tex, v
calc

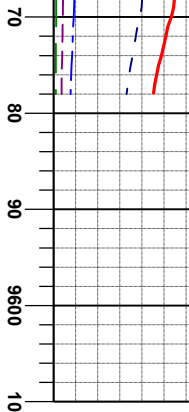
ft 7000







NOBLE ENERGY INC
ROHN STATE LD04-65-1HN
TD @ 9578' MD
08/08/2013 @ 2:40 AM
THANK YOU
COLUMBINE LOGGING



5

NOBLE ENERGY INC
ROHN STATE LD04-65-1HN
TD @ 9578' MD
08/08/2013 @ 2:40 AM

sbblky-sdpily, sft, v mot-
calc ; tr bent

